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DESIGNER'S SPECIAL PARTS ASSORTMENT

Ideal parts assortment for the creative rocketeer.
Develop your own Research and Development program.
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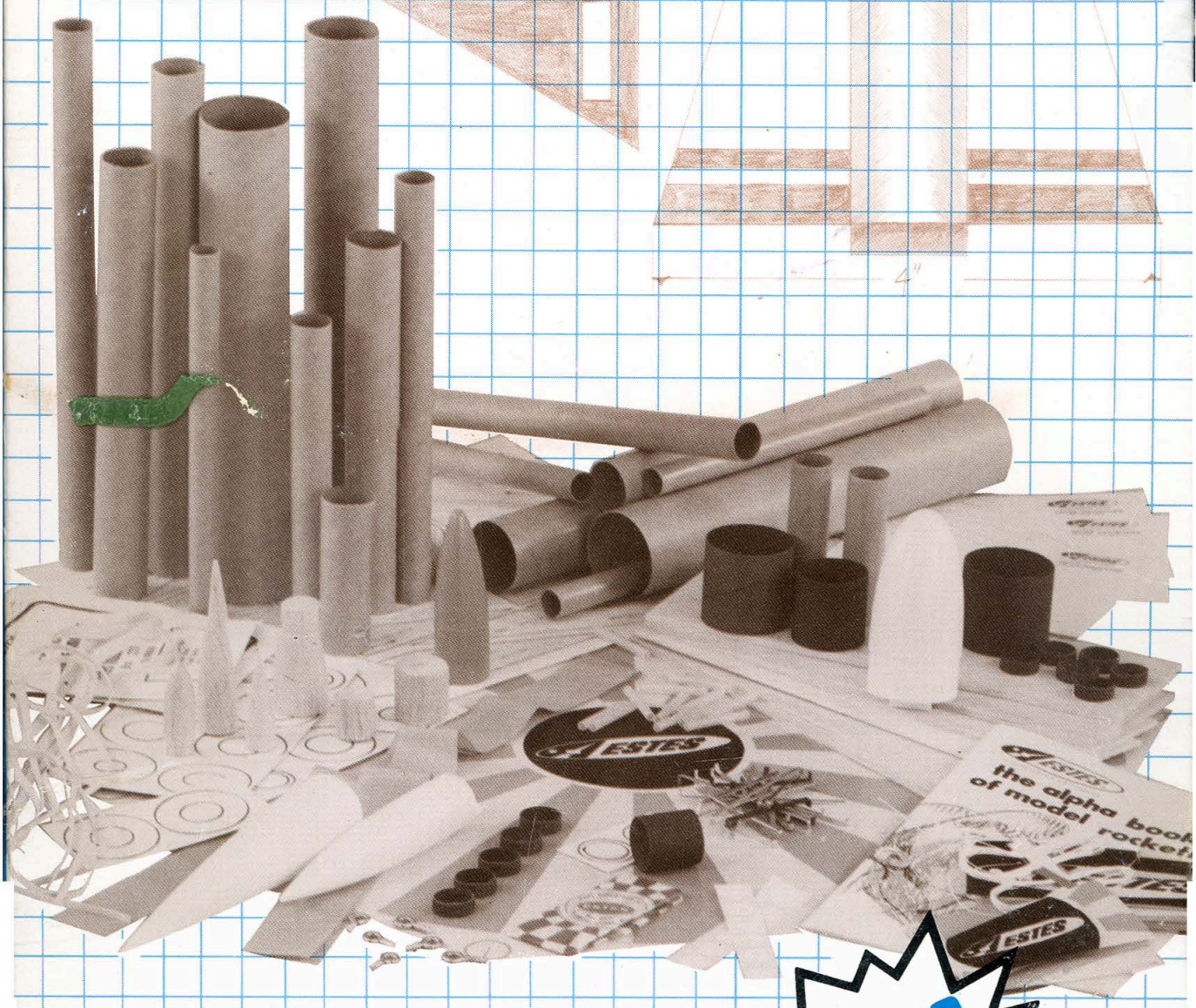

$28.00 VALUE

INCLUDES:

Body Tubes

Qty	Description
2	BT-5
2	BT-20
2	BT-50
1	BT-55
1	BT-60

Fin Material

Qty	Description
2	BFS-20
2	BFS-30
2	BFS-40

Nose Cones

Qty	Description
1	BNC-5E
1	BNC-5S
1	BNC-20B
1	BNC-20R
1	PNC-50K
1	PNC-50Y
1	PNC-55AC
1	PNC-60L

Parachutes

Qty	Description
1	PK-8
2	PK-12
1	PK-18
1	PK-24

Additional Supplies

Qty	Description
3	Shock Cord 1/8"x18"
1	Shock Cord 1/8"x36"
1	Shock Cord 1/4"x36"
1	Streamer Material
6	Screw Eyes
3	EngineBlocks(EB-20A)
3	Engine Holders(EH-3)
3	Engine Holders(EH-2)
1	Engine Mount (EH-2050)
1	Engine Mount (EH-2060)
1	Nose Block (NB-20)
1	Nose Block (NB-50)
1	Stage Coupler(JT-55C)
1	Stage Coupler(JT-60C)
1	Balsa Adapter (TA-2050A)
1	Multi-Purpose Paper Adapter Set (TA-1)
12	Launch Lugs
1	Alpha Book of Model Rocketry
1	Fin Pattern Sheet No. 2
1	Fin Pattern Sheet No. 3

GIANT VALUE!

DESIGNER'S SPECIAL PARTS ASSORTMENT

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#1463

DESIGNER'S SPECIAL PARTS ASSORTMENT

ESTES
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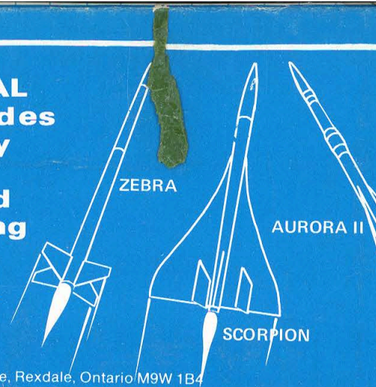
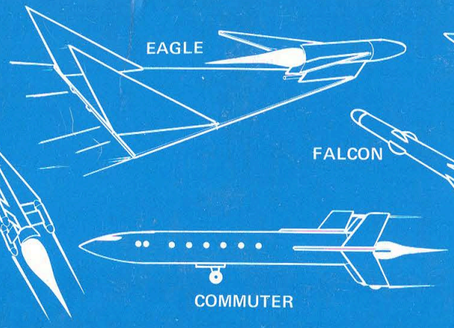
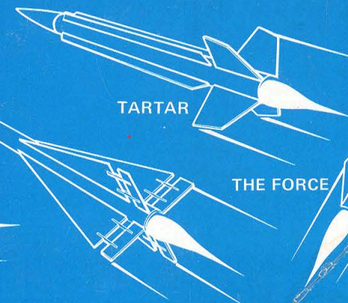
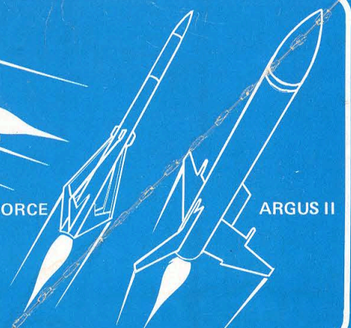
THE DESIGNER'S SPECIAL Parts Assortment provides you with a huge quantity and selection of parts allowing you to plan and build a variety of exciting designs like these!

Plans for these designs are not included.









ESTES INDUSTRIES, PENROSE, COLORADO 81240, USA
Distributed in Canada by: Hobby Industries, 24 Ronson Drive, Rexdale, Ontario M9W 1B4

INCLUDES ALL THESE GREAT PARTS AND ACCESSORIES.

1 BT-60
1 BT-55
2 BT-50
2 BT-20
2 BT-5

BODY TUBES

NOSE CONES

1 BNC-5E
1 BNC-5S
1 BNC-20B
1 BNC-20R
1 PNC-60L
1 PNC-50K
PNC-50Y
1 PNC-55AC

2 BFS-20
2 BFS-30

FIN MATERIAL

2 BFS-40

RECOVERY EQUIPMENT

3 Shock Cord 1/8"x18"

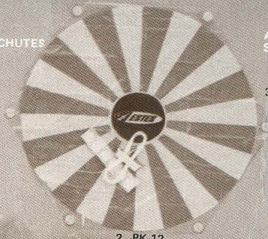
6 Screw Eyes

1 Shock Cord 1/8"x36"

1 Shock Cord 1/4"x36"

1 Streamer Material

PARACHUTES



2 PK-12

1 PK-18

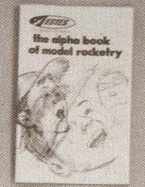
1 PK-24

ADDITIONAL SUPPLIES

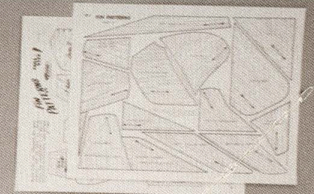
3 Engine Blocks(EB-20A)

1 Engine Mount (EH-2050)

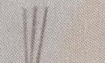
1 Engine Mount (EH-2060)



1 Alpha Book of Model Rocketry



1 Fin Pattern Sheet No. 2
1 Fin Pattern Sheet No. 3

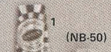


3 Engine Holders (EH-3)

3 Engine Holders (EH-2)

1 Stage Coupler (JT-55C)

1 Stage Coupler (JT-60C)



1 PK-8

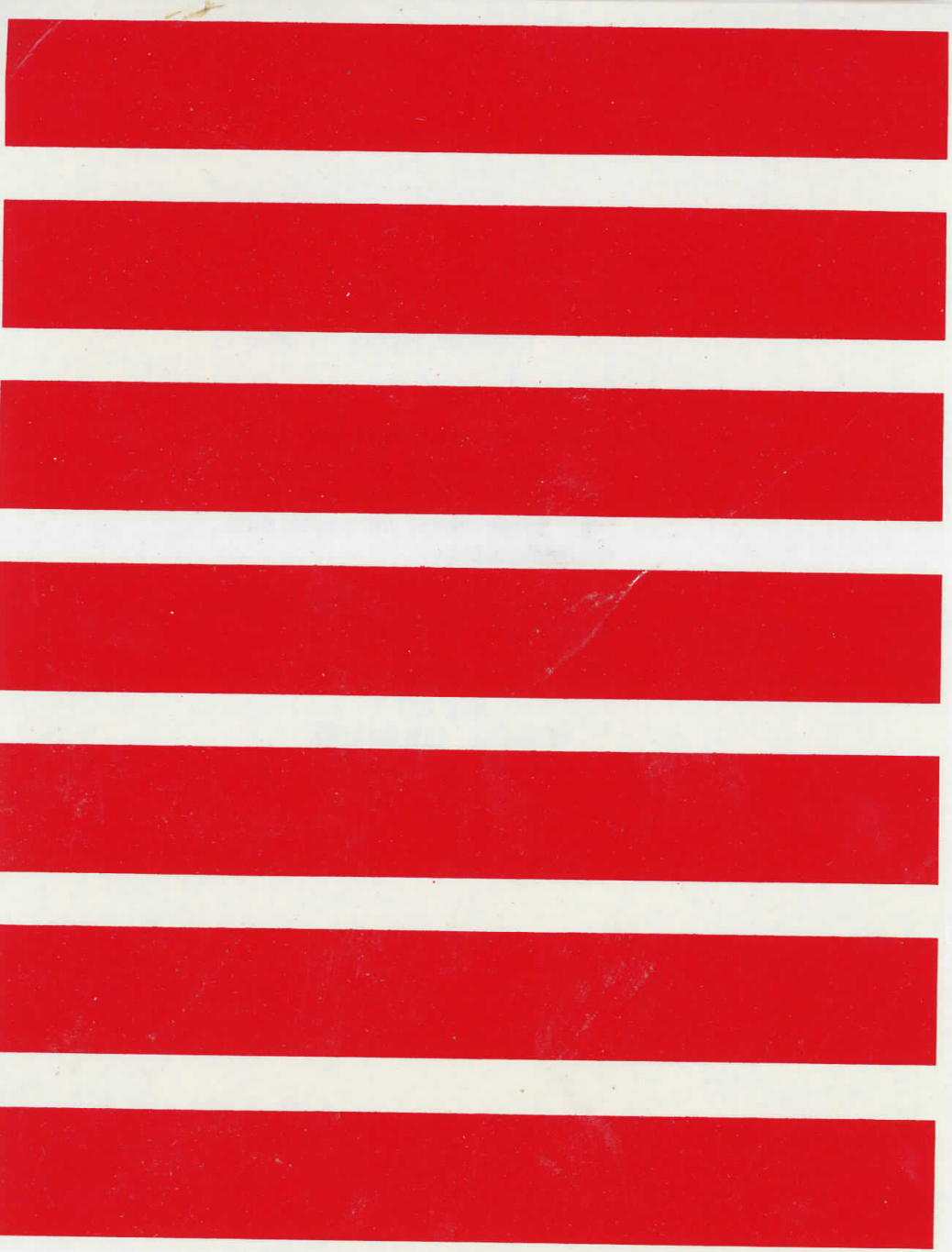
1 (NB-50)

1 Nose Block (NB-20)

1 Balsa Adapter (TA-2050A)

12 Launch Lugs

1 Multi-Purpose Paper Adapter Set (TA-1)



PN37092 ESTES INDUSTRIES KD-91B

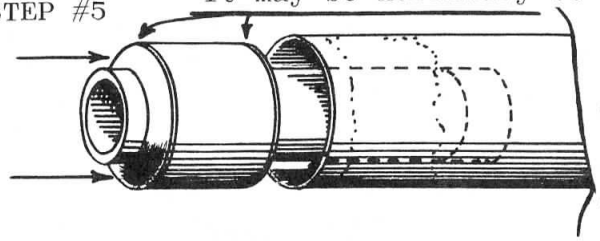
INSTRUCTIONS

1. Cut decals apart.
2. To transfer, dip decal into water for approximately 30 seconds or until decal slides on paper backing. Slide decal off paper onto desired surface.
3. Blot dry with clean damp cloth. Allow to dry 24 hours.

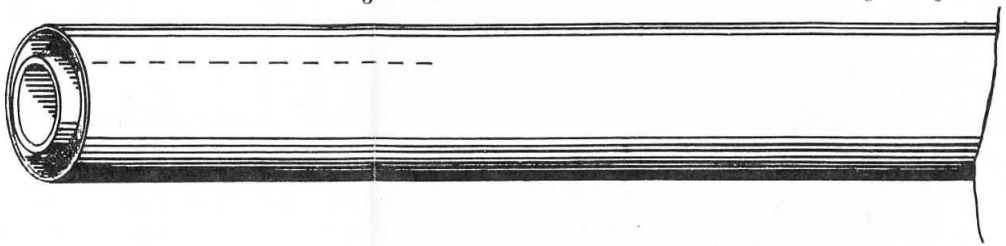
ESTES INDUSTRIES, INC.
Box 227
PENROSE, COLORADO

STEP #5

It may be necessary to sand the edges of the rings to get a smooth fit in the rocket body.



Spread a layer of glue around the inside of the rocket body and slide the engine mount into position. When this has dried, run a fillet of glue around all visible joints and let entire assembly dry.



EH-2050
ENGINE MOUNT

Estes Industries Inc.

Box 227

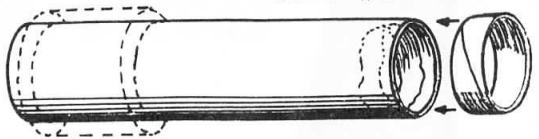
PENROSE, COLORADO 81240

Contents

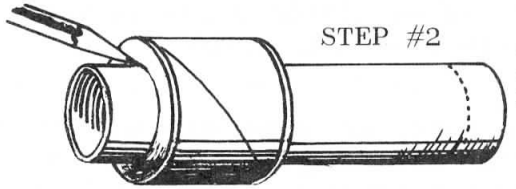
1	Engine Holder Tube
1	Engine Block
1	Stage Coupler
2	2050 Spacer Ring

FOLLOW ILLUSTRATED INSTRUCTIONS IN THEIR NUMERICAL ORDER.

STEP #1

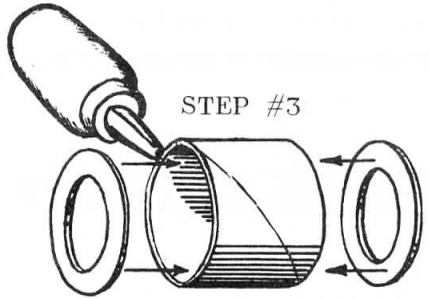


Spread glue around the inside of one end of the engine holder and insert the engine block, pushing it smoothly into place in one motion to prevent sticking.



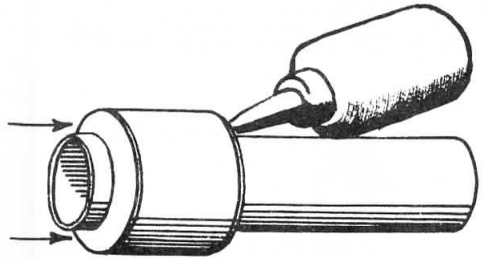
STEP #2

"Dry" assemble the adapter unit (two spacer rings and a stage coupler) in place on the engine holder and mark the desired position.



STEP #3

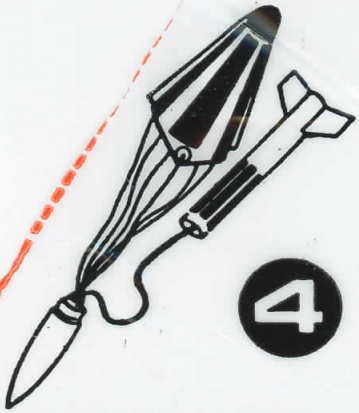
Apply a line of glue around one end of the stage coupler and place a spacer ring against the glue. Do the same with the other end, wipe off excess glue and set the assembly aside to dry.



STEP #4

Slide the adapter unit into place on the engine holder tube. Run a fillet of glue around the joints on both ends of the adapter unit as shown. Set the assembly aside to dry.

SET THE ASSEMBLY ASIDE TO DRY.



4

(4) PASS PARACHUTE LINES THROUGH NOSE CONE SCREW EYE. PASS CANOPY COMPLETELY THROUGH LOOP ENDS. DRAW LINES TIGHT AGAINST SCREW EYE AND "SET" KNOT WITH A DROP OF GLUE.

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PK-18A PARA-PAK

PARACHUTE ASSEMBLY INSTRUCTIONS

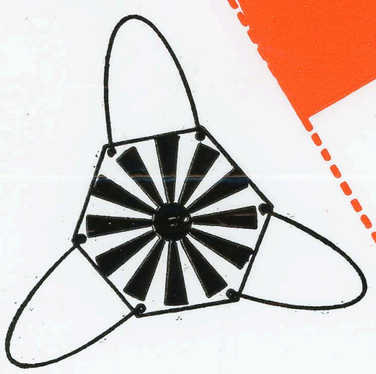
PN 38203

(1) CUT OUT PARACHUTE CANOPY CAREFULLY ALONG DOTTED LINES. CUT PARACHUTE SHROUD LINE INTO THREE EQUAL LENGTHS.

1

CUT OUT CAREFULLY ALONG DOTTED LINES

2



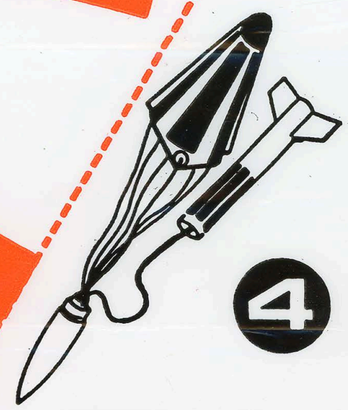
(2) PLACE END OF SHROUD LINE OVER CIRCLE AT PARACHUTE CORNER. POSITION AND SECURE LINE WITH TAPE DISC AS SHOWN IN FIGURE 1. PRESS DISC FIRMLY INTO PLACE. ATTACH REMAINING LINES TO ADJACENT CORNERS OF PARACHUTE AS IN FIGURE 2.

CUT OUT CAREFULLY ALONG DOT

(3) HOLD CANOPY AT ITS CENTER, PRINTED SIDE OUT. PULL LINES TOGETHER AND EVEN UP ENDS.

3

CUT OUT CAREFULLY ALONG DOTTED LINES



4

(4) PASS PARACHUTE LINES THROUGH NOSE CONE SCREW EYE. PASS CANOPY COMPLETELY THROUGH LOOP ENDS. DRAW LINES TIGHT AGAINST SCREW EYE AND "SET" KNOT WITH A DROP OF GLUE.

LINES

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TUBE ADAPTERS

TA-1

★ UNLIMITED DESIGN POSSIBILITIES!

★ VERSATILE

★ LIGHT

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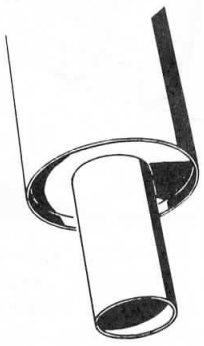
TUBE ADAPTERS



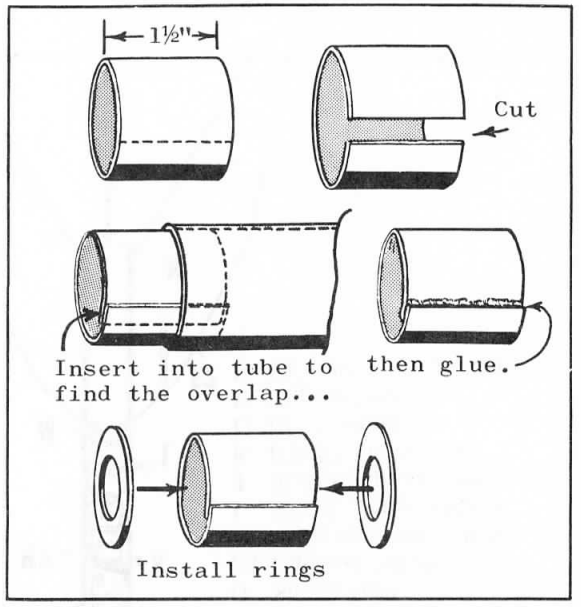
Tube Adapters:

This tube adapter kit is designed to provide neat appearing, lightweight, and easy to assemble transitions from one size body tube to another. The kit consists of two sheets of adapter discs and three universal tapered shrouds. Rings are provided for all the most popular sizes of Estes body tubes.

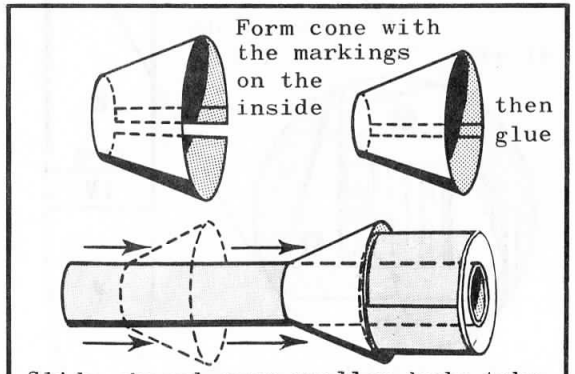
Assembly and Use Instructions

In building rockets with transitions from one size tube to another, it is necessary to design the joint so that it will be strong and rigid. First, select the two rings, one from each sheet, that match the two tube sizes. The rings will fit tightly around the smaller tube and tightly inside the larger tube.

The recommended method for making the joint is to first cut a length of the larger body tube about 1 1/2" long. Slit this piece down one side, and glue it back together with enough overlap so that it fits evenly and smoothly inside the original tube. This may be done most easily by applying the glue and then sliding the piece into a section of the full diameter tube. Remove the piece **without** disturbing it before the glue sets. (A stage coupler, JT-50 or JT-60, can be used in place of the 1 1/2" length of body tube. It will not be necessary to slit and glue **it.**)

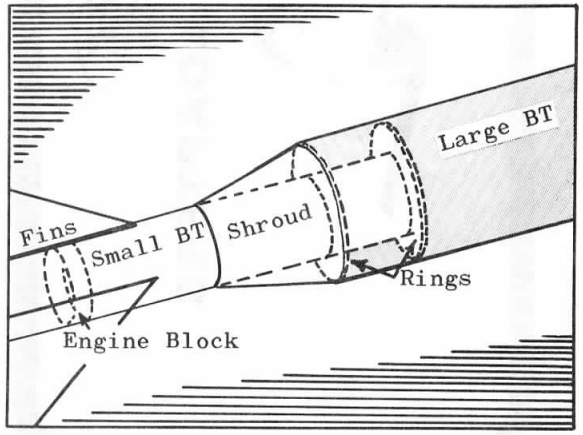


When this piece is dry, glue a ring to each end of it as in the drawing. Apply glue to the inside edges of the rings and slip the smaller body tube through the rings so it is centered by both. Make a tapered shroud by cutting it out at the lines for the smaller and larger tube sizes. Form it to its proper conical shape, with the markings on the inside. Apply glue to the



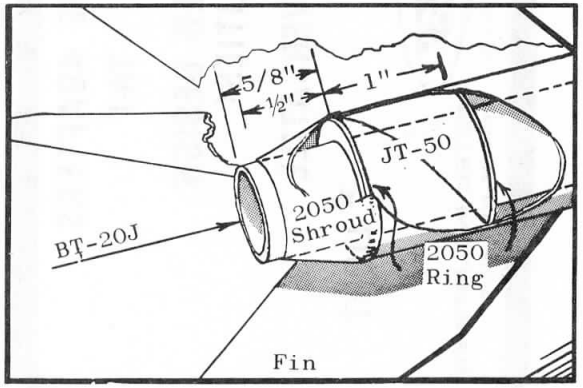
Slide shroud over smaller body tube and fit snugly against the adapter. Glue shroud to body tube at smaller end. This unit is now ready to put in place in larger tube.

flap, and hold in place, with the joint exactly covering the flap area. When the glue has set, slip the shroud down over the smaller body tube, bring it up tightly against the adapter fitting, and apply glue to the small end only.

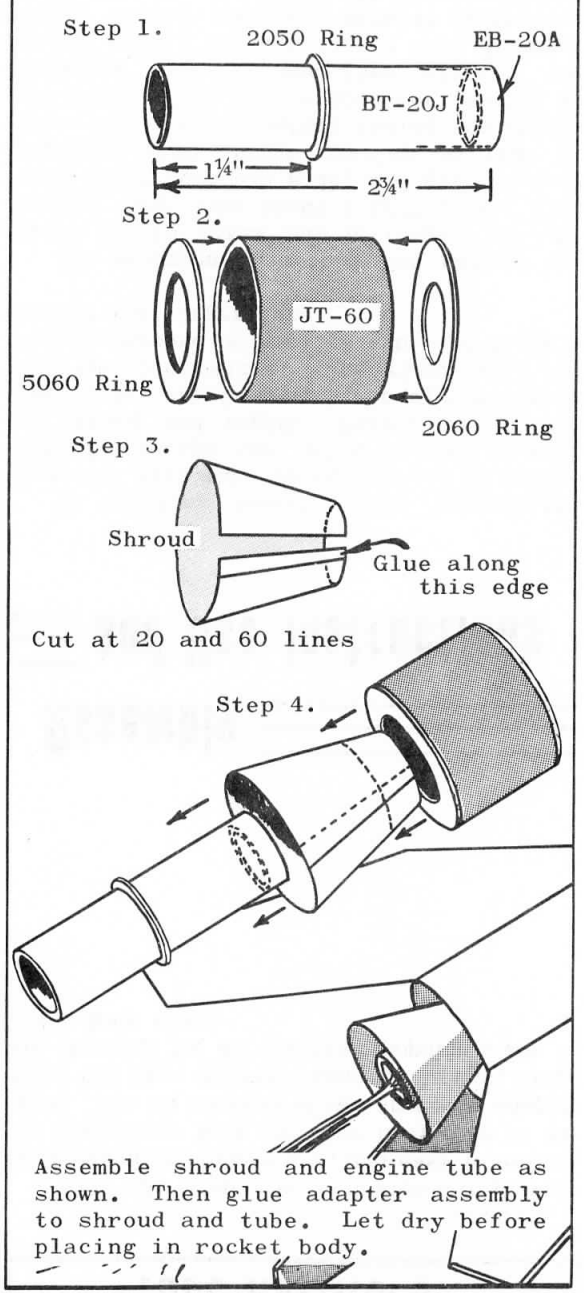


After the shroud has been glued in place, apply glue to the outside of the adapter fitting, and insert it into the larger body tube so that the shroud is tight against the end of the tube. Glue the edge of the shroud to the end of the body tube.

SUGGESTED APPLICATIONS



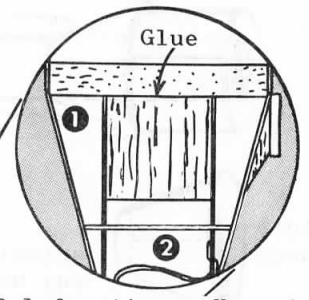
DUMMY NOZZLE UNIT

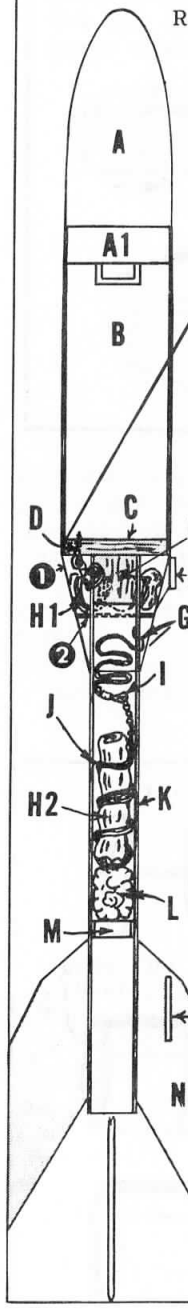


Assemble shroud and engine tube as shown. Then glue adapter assembly to shroud and tube. Let dry before placing in rocket body.

Bonus space available to you by using a 20-60 Shroud ❶ and 20-50 Spacing Ring ❷

Make that space perform a useful function. Here is one example.





PARTS LIST

A PNC-60L Nose cone
A1 PNCA-60L Nose cone adapter
B BT-60R Payload section
C BFS-80 Plug for payload section.
D SE-2 Screw eye
E NB-20 Nose block
F1 1/2" launch lug
F2 1" launch lug
G Shock cord
H1 Payload 'chute
H2 Main recovery 'chute
I SV-12 Snap swivel
J SLT-1 Shroud line
K BT-20 Body tube
L RP-1 Wadding
M Engine block
N BFS-20 Fin material